

Minutes (Draft)  
Scientific Advisory Committee  
Subcommittee on Familial Searches  
August 6, 2007 at 2:30 p.m.  
DFS Central Laboratory, Classroom 1

Subcommittee Members Present:

Dr. Frederick Bieber (via teleconference)  
Mr. Dominic Denio  
Dr. Arthur Eisenberg  
Dr. Dan Krane, Chair  
Dr. Norah Rudin

Staff Members Present:

Ms. Wanda Adkins, Office Manager  
Mr. Jeff Ban, Forensic Biology Section Chief  
Dr. David Barron, Technical Services Director  
Ms. Michele Gowdy, Department Counsel  
Dr. Susan Greenspoon, Forensic Biologist  
Ms. Meghan Kish, Committee Secretary  
Mr. George Li, CODIS Administrator  
Mr. Pete Marone, Department Director

Call to Order:

Dr. Krane called the meeting to order at 2:30 pm. He apologized for the delayed start, but explained that flight trouble had required him to change the meeting time from 1:00 pm until 2:30 pm.

He introduced Dr. Norah Rudin, who had been appointed to the Scientific Advisory Committee to the seat of Forensic Biologist, succeeding Ms. Demris Lee.

Adoption of Agenda:

Dr. Krane asked if there were any additions or corrections to the agenda. There were none, and the agenda was adopted by unanimous vote.

Approval of minutes from May 8, 2007 meeting of the subcommittee:

Dr. Krane asked if there were any changes to be made to the minutes from the May 8, 2007 meeting of the subcommittee. There were none suggested. Dr. Eisenberg made a motion to approve the minutes. Dr. Rudin seconded the motion. The motion passed, and the minutes were approved.

47 Summary of previous meeting:

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49 Dr. Krane presented a brief summary of the previous meeting, referencing the minutes.  
50 He explained that the Subcommittee had viewed a video report on familial searches that  
51 had been provided by Dr. Bieber, had received updates on legal issues from Ms. Gowdy,  
52 and heard reports from Mr. Li and Mr. Ban. Dr. Krane summarized the presentation that  
53 he had given on Likelihood Ratios using Kinship Analyses, and reminded the  
54 subcommittee members that Mr. Ban had been asked to report on the use of Y-STRs for  
55 prescreening purpose. The meeting had wrapped up with a discussion of ethics, led by  
56 Dr. Bieber.

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58 Report on impact study regarding Y-STR profiling:

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60 In response to a request from the Subcommittee at the May meeting, Mr. Ban gave a  
61 presentation on the cost analysis of using Y-STRs as a tool in casework. Discussion  
62 followed.

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64 There was discussion on the two possible uses of Y-STRs, either as a comparison  
65 (searching the autosomal database, then using Y-STRs to compare the results) or as a  
66 prescreening tool. Dr. Krane asked if Mr. Ban could make his presentation available to  
67 the other subcommittee members. Mr. Ban agreed.

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69 Dr. Bieber next explained that, in the UK, the driving force of these types of familial  
70 analyses comes from the law enforcers, rather than the database people. He explained  
71 that, when the constables run out of leads, they approach the database as a tool. They do a  
72 rank order analysis based on the numbers of allele shared. They then, depending on the  
73 size of the jurisdiction, print out the top matches, and then use other non-DNA  
74 investigative information to narrow down that list. Dr. Bieber explained that science was  
75 not the driving factor, but rather police work was. He suggested that prosecution and  
76 police should be driving the familial searches, not CODIS administrators. He also  
77 asserted that using familial searches in only the most important of cases was a key  
78 consideration.

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80 Present and future capacity of CODIS for familial searching:

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82 Dr. Krane explained that, at the May meeting, it was commented that the Subcommittee  
83 wished to hear from Dr. Tom Callaghan, Chief of the CODIS unit, regarding the current  
84 and future capabilities of CODIS. Unfortunately, Dr. Callaghan's busy schedule  
85 prevented him from speaking to the Subcommittee, but he did provide a memorandum  
86 detailing the capabilities of NG (next generation) CODIS.

87  
88 Discussion followed regarding Dr. Callaghan's memo. Dr. Eisenberg explained that the  
89 initial intent of NG CODIS was in the area of missing persons, and that he was not aware  
90 of any intent to use those algorithms for familial searches. He further explained that it is  
91 likely CODIS will not have that capability for many years.

93 There was discussion that, although CODIS may not provide any solution to the problem  
94 of familial searches, perhaps commercially available software packages used  
95 simultaneously could provide assistance. Dr. Bieber agreed, suggesting that there were  
96 other possible methods. Dr. Eisenberg concurred. Dr. Krane volunteered his company's  
97 services, should Virginia chose to move in that direction.  
98

99 Dr. Bieber suggested that, as a Subcommittee, perhaps they could help determine what  
100 education program could be developed to bring detectives from local jurisdictions into  
101 the discussion of familial searches. He explained that metadata, gathered through  
102 investigation, can supplement DNA information to make familial searches more  
103 plausible. He suggested that they might have an easy time agreeing on mathematical  
104 approaches, but that detective work will be essential for success. Dr. Krane and Dr.  
105 Eisenberg were in agreement.  
106

107 Dr. Rudin also agreed, asserting that it makes more sense for these searches to be case  
108 driven, as opposed to data bank driven.  
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110 Review of other policies and strategies for familial searches:  
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112 Dr. Krane explained that the two main methods of familial searches had already been  
113 discussed: the crude approach of allele counting, as well as the more sophisticated  
114 approach of kinship analyses.  
115

116 Dr. Bieber expressed that the problem currently facing familial searches is that no state  
117 has taken the lead. There will either be a "poster child" case where suddenly this all  
118 makes sense to everyone, or there will be an embarrassment case which will set familial  
119 searches back considerably. He then moved on to discuss how the simple methods of  
120 Mendelian genetics can help to generate investigative leads, not unlike police work,  
121 where some false leads are followed prior to an accurate one. He gave an example of a  
122 recent Massachusetts case involving a brother killing a brother, within a family with a  
123 history of criminal behavior. He used this point to explain that the tragic reality is that  
124 oftentimes criminal behavior trends run within families, and to ignore the potential of  
125 these trends would be regrettable.  
126

127 Mr. Denio echoed these thoughts, and expanded on them. He explained that he felt  
128 privileged to serve on a committee with a leadership role in this field. He stressed that  
129 legal issues also had to be taken into consideration, so that future generations of CODIS  
130 could be stimulated to move in a forward direction that can stand up to legal challenges.  
131

132 Dr. Eisenberg explained that the first few successes in the field of familial searches have  
133 been "accidental." He further stressed that any approach in Virginia would have to be on  
134 a case-by-case basis, not haphazardly. Anything else runs the risk of being pointless, or  
135 expensive. He stated that, since no other state has done the legwork, it would be wise to  
136 examine the steps taken in the UK.  
137

Dr. Rudin agreed, informing the subcommittee that the UK has developed a formalized and published intelligence database

Ethical issues from a medical genetics perspective:

Dr. Krane drew the Subcommittee's attention to the articles that he had provided with the materials. The first is an article by Daniel Grimm published in the June 2007 publication of the Columbia Law Review entitled "The Demographics of Genetic Surveillance: Familial DNA Testing and the Hispanic Community." The second was a memorandum provided by Sheldon Krimsky, a Visiting Scholar for the American Civil Liberties Union. Dr. Krane suggested that these ethical questions had been submitted to the Subcommittee for consideration. He also suggested that the role of the Subcommittee was not to make a judgment regarding these issues, but rather to draw the policy board's attention to it.

Dr. Bieber stated that, if case driven, many of the potential concerns of genetic surveillance are assuaged. He asserted that no one was advocating large-scale random searches. Dr. Eiserberg concurred, stating that genetic profiles were included in the database, not population information.

Discussion continued regarding ethical considerations.

Dr. Bieber inquired if Mr. Marone had received any inquiries or input from user agencies regarding the possibility of using familial searches to generate more investigative leads. Mr. Marone responded that not one request had been received from law enforcement.

Mr. Marone continued, suggesting that prior to bringing in investigators in on discussions, the Department needed to know what capabilities even exist for these types of searchers. He expressed concern that, not only do we not have all of the answers, but we don't even know all of the questions.

Dr. Bieber expressed surprise that inquiries have not been made, since familial searches over in Europe are driven almost exclusively by requests from law enforcement. Dr. Rudin suggested that perhaps the answer in cultural, that here in the U.S. individual liberty is a higher concern.

Mr. Marone concurred with her statement, explaining that the Department is not even allowed to share statistical data with anyone other than law enforcement in furtherance of a criminal investigation.

Discussion continued on the involvement of law enforcement in different aspects of familial searches.

Current research on familial searches:

182 Dr. Krane prefaced the next topic by explaining that the sub-topics had already been  
183 discussed. The three methods: Monte Carlo simulations, kinship analysis likelihood ratios  
184 with thresholds and pre-screening, and attaching weight to subsequent matching profiles,  
185 were re-summarized briefly.

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187 Discussion then turned to the result of the Subcommittee's meetings. Dr. Rudin expressed  
188 an interest in meeting with the policy makers to discuss familial searches, and the ground  
189 that had been covered by the Subcommittee. Dr. Krane agreed, reiterating his belief that  
190 the Subcommittee had an obligation to draw attention to the ethical issues, and leave it at  
191 that. He explained that his ambition was to create a brief, substantive report for the  
192 Committee, including ethics, mathematical components, and investigative considerations.  
193 General discussion ensued.

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195 Recommendations for the SAC and FSB:

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197 After some discussion, Dr. Krane stated that it was his intent to create a report for the  
198 Subcommittee to present to the Committee, summarizing the discussions that had taken  
199 place at the prior two meetings. A draft of this report was circulated, and discussion  
200 ensued.

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202 After lengthy discussion, a full report was drafted. Dr. Bieber suggested that perhaps the  
203 report should be submitted as a draft to allow for later edits, but general consensus was to  
204 create a final report and allow the SAC to make changes as they desired. Dr. Bieber then  
205 made a motion to submit the report as is to the SAC. Dr. Eisenberg seconded the motion.  
206 The motion carried unanimously.

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208 Public comment:

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210 Dr. Krane asked if there was any public comment. There was none.

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212 Selection of future meeting date(s):

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214 There was discussion of whether or not to schedule a tentative meeting of the  
215 Subcommittee prior to the next Committee meeting. The consensus of the subcommittee  
216 was to wait until the Scientific Advisory Committee met, and allow the larger body to  
217 determine whether another meeting was necessary.

218  
219 Dr. Eisenberg made a motion to await guidance from the Scientific Advisory Committee  
220 prior to scheduling any further meetings of the Subcommittee. Mr. Denio seconded that  
221 motion. The motion passed unanimously.

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223 Adjourn:

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225 The meeting was adjourned at 7:03 pm.